

GENERIC · NETWORK

U0616

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0616

Lost Communication With Engine Coolant Bypass Valve B

U0616 is a network communication fault indicating that a control module on the vehicle's controller area network (CAN) bus has lost contact with the engine coolant bypass valve 'B' circuit or the module responsible for controlling it. The computer detected that expected periodic messages from the bypass valve control module or actuator stopped arriving within a defined time window, triggering the communication loss code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Intermediate	Network communication

Symptoms you may notice

- Illuminated check engine light or service vehicle soon message on the dashboard
- Often no symptoms besides the warning light, especially if the valve fails in a default position
- Prolonged engine warm-up times or coolant temperature that rises more slowly than normal
- Heater performance that is weaker than usual or inconsistent between driving cycles
- Slightly higher fuel consumption during cold starts due to altered coolant routing
- In some vehicles, a reduced power or limp-home mode if the powertrain control module cannot verify coolant flow control

Common causes, most likely first

- 1 Damaged, corroded, or disconnected electrical connector at the coolant bypass valve actuator
- 2 Open or shorted wiring in the bypass valve control circuit, often from heat exposure or chafing
- 3 Failed coolant bypass valve actuator motor or internal position sensor
- 4 Blown fuse or poor ground connection serving the bypass valve control module
- 5 Software glitch or lost configuration in the module that communicates with the bypass valve
- 6 Controller area network bus fault affecting the module that relays bypass valve status
- 7 Failed engine control module or body control module that hosts the bypass valve communication interface



How to diagnose and fix it

- 1 Inspect the coolant bypass valve connector and wiring for corrosion, looseness, or heat damage, and clean or repair as needed
- 2 Check the fuse and ground circuits that supply power to the bypass valve actuator or its control module
- 3 Measure resistance and voltage on the bypass valve control circuit to confirm continuity and rule out opens or shorts
- 4 Use a scan tool to command the bypass valve through its full range and observe actuator response and position feedback
- 5 Verify communication on the controller area network bus with a scan tool to see whether other modules also report lost communication
- 6 If wiring and power are good, substitute a known-good bypass valve actuator to confirm whether the original unit has failed
- 7 After repair, clear the code and perform a road test with a cold start to confirm the bypass valve responds and the code does not return

Why the bypass valve code often misleads

- A coolant bypass valve that is mechanically stuck but still electrically connected can set U0616 because the control module stops receiving valid position feedback, not because the valve is completely dead.
- Technicians often replace the bypass valve when the real fault is a chafed wire near the exhaust manifold or a corroded ground that only fails when the engine bay is hot.
- This code can appear after a low-voltage event such as a weak battery or jump start, because modules may drop offline momentarily and store communication codes that are not permanent faults.
- Some vehicles use the same communication line for several coolant control actuators, so a single failed actuator can cause multiple U-codes that look like separate problems.
- A scan tool that only reads generic OBD-II codes may not show the bypass valve live data; manufacturer-level software is often needed to command the valve and see position feedback.

Can I keep driving with U0616?

The vehicle is generally safe to drive short distances because the engine will default to a safe coolant routing strategy, but avoid heavy loads, long trips, or extreme temperatures until the fault is repaired. If the engine temperature gauge behaves erratically or the vehicle enters limp mode, stop driving and have it diagnosed promptly.



Tools that help

- OBD-II scan tool with manufacturer-level or enhanced diagnostic capability
- Digital multimeter for continuity and voltage checks
- Wiring diagram or service information for the coolant bypass valve circuit
- Socket set and trim removal tools for accessing the valve and connectors
- Infrared thermometer to verify coolant temperature changes during warm-up

Reading U0616

U	Network: communication between the vehicle's control modules.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
6	Network communication.
16	The exact fault within that area.

Often seen with

P0128 Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0597** Thermostat Heater Control Circuit/Open · **U0100** Lost Communication With ECM/PCM A · **U0615** Lost Communication With Engine Coolant Bypass Valve A · **U0617** Lost Communication With Engine Coolant Bypass Valve C

See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0616/>

